

Name: _____

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FOIL when $A \neq 1$ solution (version 0)

FOIL the expressions shown below:

1. $(-6x - 3)(7x + 2)$

$$\begin{aligned} & (-6)(7)x^2 + (-6)(2)x + (-3)(7)x + (-3)(2) \\ & (-42)x^2 + (-12)x + (-21)x + (-6) \\ & -42x^2 - 33x - 6 \end{aligned}$$

2. $(4x - 8)(7x + 4)$

$$\begin{aligned} & (4)(7)x^2 + (4)(4)x + (-8)(7)x + (-8)(4) \\ & (28)x^2 + (16)x + (-56)x + (-32) \\ & 28x^2 - 40x - 32 \end{aligned}$$

3. $(3x - 4)(7x + 3)$

$$\begin{aligned} & (3)(7)x^2 + (3)(3)x + (-4)(7)x + (-4)(3) \\ & (21)x^2 + (9)x + (-28)x + (-12) \\ & 21x^2 - 19x - 12 \end{aligned}$$

4. $(-5x + 7)(2x + 2)$

$$\begin{aligned} & (-5)(2)x^2 + (-5)(2)x + (7)(2)x + (7)(2) \\ & (-10)x^2 + (-10)x + (14)x + (14) \\ & -10x^2 + 4x + 14 \end{aligned}$$

5. $(2x + 7)(5x + 8)$

$$\begin{aligned} & (2)(5)x^2 + (2)(8)x + (7)(5)x + (7)(8) \\ & (10)x^2 + (16)x + (35)x + (56) \\ & 10x^2 + 51x + 56 \end{aligned}$$

FOIL the expressions shown below:

6. $(8x - 4)(3x - 6)$

$$\begin{aligned}(8)(3)x^2 + (8)(-6)x + (-4)(3)x + (-4)(-6) \\ (24)x^2 + (-48)x + (-12)x + (24) \\ 24x^2 - 60x + 24\end{aligned}$$

7. $(2x - 4)(-2x - 3)$

$$\begin{aligned}(2)(-2)x^2 + (2)(-3)x + (-4)(-2)x + (-4)(-3) \\ (-4)x^2 + (-6)x + (8)x + (12) \\ -4x^2 + 2x + 12\end{aligned}$$

8. $(-4x + 3)(-3x - 7)$

$$\begin{aligned}(-4)(-3)x^2 + (-4)(-7)x + (3)(-3)x + (3)(-7) \\ (12)x^2 + (28)x + (-9)x + (-21) \\ 12x^2 + 19x - 21\end{aligned}$$

9. $(-8x + 7)(6x - 8)$

$$\begin{aligned}(-8)(6)x^2 + (-8)(-8)x + (7)(6)x + (7)(-8) \\ (-48)x^2 + (64)x + (42)x + (-56) \\ -48x^2 + 106x - 56\end{aligned}$$

10. $(-4x - 2)(-7x - 7)$

$$\begin{aligned}(-4)(-7)x^2 + (-4)(-7)x + (-2)(-7)x + (-2)(-7) \\ (28)x^2 + (28)x + (14)x + (14) \\ 28x^2 + 42x + 14\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 1)

FOIL the expressions shown below:

1. $(-6x - 9)(-3x + 2)$

$$\begin{aligned} & (-6)(-3)x^2 + (-6)(2)x + (-9)(-3)x + (-9)(2) \\ & (18)x^2 + (-12)x + (27)x + (-18) \\ & 18x^2 + 15x - 18 \end{aligned}$$

2. $(-8x + 7)(4x - 7)$

$$\begin{aligned} & (-8)(4)x^2 + (-8)(-7)x + (7)(4)x + (7)(-7) \\ & (-32)x^2 + (56)x + (28)x + (-49) \\ & -32x^2 + 84x - 49 \end{aligned}$$

3. $(-4x + 3)(7x - 3)$

$$\begin{aligned} & (-4)(7)x^2 + (-4)(-3)x + (3)(7)x + (3)(-3) \\ & (-28)x^2 + (12)x + (21)x + (-9) \\ & -28x^2 + 33x - 9 \end{aligned}$$

4. $(-5x + 2)(2x + 7)$

$$\begin{aligned} & (-5)(2)x^2 + (-5)(7)x + (2)(2)x + (2)(7) \\ & (-10)x^2 + (-35)x + (4)x + (14) \\ & -10x^2 - 31x + 14 \end{aligned}$$

5. $(8x + 5)(2x - 9)$

$$\begin{aligned} & (8)(2)x^2 + (8)(-9)x + (5)(2)x + (5)(-9) \\ & (16)x^2 + (-72)x + (10)x + (-45) \\ & 16x^2 - 62x - 45 \end{aligned}$$

FOIL the expressions shown below:

6. $(8x - 4)(3x - 6)$

$$\begin{aligned}(8)(3)x^2 + (8)(-6)x + (-4)(3)x + (-4)(-6) \\ (24)x^2 + (-48)x + (-12)x + (24) \\ 24x^2 - 60x + 24\end{aligned}$$

7. $(2x - 4)(-2x - 3)$

$$\begin{aligned}(2)(-2)x^2 + (2)(-3)x + (-4)(-2)x + (-4)(-3) \\ (-4)x^2 + (-6)x + (8)x + (12) \\ -4x^2 + 2x + 12\end{aligned}$$

8. $(-4x + 3)(-3x - 7)$

$$\begin{aligned}(-4)(-3)x^2 + (-4)(-7)x + (3)(-3)x + (3)(-7) \\ (12)x^2 + (28)x + (-9)x + (-21) \\ 12x^2 + 19x - 21\end{aligned}$$

9. $(-8x + 7)(6x - 8)$

$$\begin{aligned}(-8)(6)x^2 + (-8)(-8)x + (7)(6)x + (7)(-8) \\ (-48)x^2 + (64)x + (42)x + (-56) \\ -48x^2 + 106x - 56\end{aligned}$$

10. $(-4x - 2)(-7x - 7)$

$$\begin{aligned}(-4)(-7)x^2 + (-4)(-7)x + (-2)(-7)x + (-2)(-7) \\ (28)x^2 + (28)x + (14)x + (14) \\ 28x^2 + 42x + 14\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 2)

FOIL the expressions shown below:

1. $(8x - 5)(-4x - 4)$

$$\begin{aligned}(8)(-4)x^2 + (8)(-4)x + (-5)(-4)x + (-5)(-4) \\ (-32)x^2 + (-32)x + (20)x + (20) \\ -32x^2 - 12x + 20\end{aligned}$$

2. $(5x - 8)(6x + 2)$

$$\begin{aligned}(5)(6)x^2 + (5)(2)x + (-8)(6)x + (-8)(2) \\ (30)x^2 + (10)x + (-48)x + (-16) \\ 30x^2 - 38x - 16\end{aligned}$$

3. $(9x + 9)(-7x - 8)$

$$\begin{aligned}(9)(-7)x^2 + (9)(-8)x + (9)(-7)x + (9)(-8) \\ (-63)x^2 + (-72)x + (-63)x + (-72) \\ -63x^2 - 135x - 72\end{aligned}$$

4. $(9x + 2)(-4x - 9)$

$$\begin{aligned}(9)(-4)x^2 + (9)(-9)x + (2)(-4)x + (2)(-9) \\ (-36)x^2 + (-81)x + (-8)x + (-18) \\ -36x^2 - 89x - 18\end{aligned}$$

5. $(6x + 9)(-2x + 7)$

$$\begin{aligned}(6)(-2)x^2 + (6)(7)x + (9)(-2)x + (9)(7) \\ (-12)x^2 + (42)x + (-18)x + (63) \\ -12x^2 + 24x + 63\end{aligned}$$

FOIL the expressions shown below:

6. $(-2x + 6)(6x - 3)$

$$\begin{aligned} & (-2)(6)x^2 + (-2)(-3)x + (6)(6)x + (6)(-3) \\ & (-12)x^2 + (6)x + (36)x + (-18) \\ & -12x^2 + 42x - 18 \end{aligned}$$

7. $(-8x - 7)(-7x - 6)$

$$\begin{aligned} & (-8)(-7)x^2 + (-8)(-6)x + (-7)(-7)x + (-7)(-6) \\ & (56)x^2 + (48)x + (49)x + (42) \\ & 56x^2 + 97x + 42 \end{aligned}$$

8. $(8x - 9)(-8x + 6)$

$$\begin{aligned} & (8)(-8)x^2 + (8)(6)x + (-9)(-8)x + (-9)(6) \\ & (-64)x^2 + (48)x + (72)x + (-54) \\ & -64x^2 + 120x - 54 \end{aligned}$$

9. $(-5x - 8)(-5x + 5)$

$$\begin{aligned} & (-5)(-5)x^2 + (-5)(5)x + (-8)(-5)x + (-8)(5) \\ & (25)x^2 + (-25)x + (40)x + (-40) \\ & 25x^2 + 15x - 40 \end{aligned}$$

10. $(8x - 6)(-4x + 5)$

$$\begin{aligned} & (8)(-4)x^2 + (8)(5)x + (-6)(-4)x + (-6)(5) \\ & (-32)x^2 + (40)x + (24)x + (-30) \\ & -32x^2 + 64x - 30 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 3)

FOIL the expressions shown below:

1. $(5x - 3)(3x - 5)$

$$\begin{aligned}(5)(3)x^2 + (5)(-5)x + (-3)(3)x + (-3)(-5) \\ (15)x^2 + (-25)x + (-9)x + (15) \\ 15x^2 - 34x + 15\end{aligned}$$

2. $(3x - 6)(-2x + 8)$

$$\begin{aligned}(3)(-2)x^2 + (3)(8)x + (-6)(-2)x + (-6)(8) \\ (-6)x^2 + (24)x + (12)x + (-48) \\ -6x^2 + 36x - 48\end{aligned}$$

3. $(-5x + 6)(5x - 2)$

$$\begin{aligned}(-5)(5)x^2 + (-5)(-2)x + (6)(5)x + (6)(-2) \\ (-25)x^2 + (10)x + (30)x + (-12) \\ -25x^2 + 40x - 12\end{aligned}$$

4. $(-8x - 4)(-2x + 9)$

$$\begin{aligned}(-8)(-2)x^2 + (-8)(9)x + (-4)(-2)x + (-4)(9) \\ (16)x^2 + (-72)x + (8)x + (-36) \\ 16x^2 - 64x - 36\end{aligned}$$

5. $(3x - 4)(8x - 2)$

$$\begin{aligned}(3)(8)x^2 + (3)(-2)x + (-4)(8)x + (-4)(-2) \\ (24)x^2 + (-6)x + (-32)x + (8) \\ 24x^2 - 38x + 8\end{aligned}$$

FOIL the expressions shown below:

6. $(-3x + 8)(7x - 5)$

$$\begin{aligned} & (-3)(7)x^2 + (-3)(-5)x + (8)(7)x + (8)(-5) \\ & (-21)x^2 + (15)x + (56)x + (-40) \\ & \quad -21x^2 + 71x - 40 \end{aligned}$$

7. $(-6x - 7)(2x - 4)$

$$\begin{aligned} & (-6)(2)x^2 + (-6)(-4)x + (-7)(2)x + (-7)(-4) \\ & (-12)x^2 + (24)x + (-14)x + (28) \\ & \quad -12x^2 + 10x + 28 \end{aligned}$$

8. $(-9x + 3)(-9x + 2)$

$$\begin{aligned} & (-9)(-9)x^2 + (-9)(2)x + (3)(-9)x + (3)(2) \\ & (81)x^2 + (-18)x + (-27)x + (6) \\ & \quad 81x^2 - 45x + 6 \end{aligned}$$

9. $(6x - 2)(8x - 4)$

$$\begin{aligned} & (6)(8)x^2 + (6)(-4)x + (-2)(8)x + (-2)(-4) \\ & (48)x^2 + (-24)x + (-16)x + (8) \\ & \quad 48x^2 - 40x + 8 \end{aligned}$$

10. $(-6x - 7)(5x + 2)$

$$\begin{aligned} & (-6)(5)x^2 + (-6)(2)x + (-7)(5)x + (-7)(2) \\ & (-30)x^2 + (-12)x + (-35)x + (-14) \\ & \quad -30x^2 - 47x - 14 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 4)

FOIL the expressions shown below:

1. $(-2x + 4)(-7x - 7)$

$$\begin{aligned} & (-2)(-7)x^2 + (-2)(-7)x + (4)(-7)x + (4)(-7) \\ & (14)x^2 + (14)x + (-28)x + (-28) \\ & 14x^2 - 14x - 28 \end{aligned}$$

2. $(-2x + 7)(3x - 7)$

$$\begin{aligned} & (-2)(3)x^2 + (-2)(-7)x + (7)(3)x + (7)(-7) \\ & (-6)x^2 + (14)x + (21)x + (-49) \\ & -6x^2 + 35x - 49 \end{aligned}$$

3. $(4x + 8)(-9x - 6)$

$$\begin{aligned} & (4)(-9)x^2 + (4)(-6)x + (8)(-9)x + (8)(-6) \\ & (-36)x^2 + (-24)x + (-72)x + (-48) \\ & -36x^2 - 96x - 48 \end{aligned}$$

4. $(9x + 6)(-5x - 8)$

$$\begin{aligned} & (9)(-5)x^2 + (9)(-8)x + (6)(-5)x + (6)(-8) \\ & (-45)x^2 + (-72)x + (-30)x + (-48) \\ & -45x^2 - 102x - 48 \end{aligned}$$

5. $(8x - 5)(-4x + 6)$

$$\begin{aligned} & (8)(-4)x^2 + (8)(6)x + (-5)(-4)x + (-5)(6) \\ & (-32)x^2 + (48)x + (20)x + (-30) \\ & -32x^2 + 68x - 30 \end{aligned}$$

FOIL the expressions shown below:

6. $(9x - 5)(4x + 7)$

$$\begin{aligned}(9)(4)x^2 + (9)(7)x + (-5)(4)x + (-5)(7) \\ (36)x^2 + (63)x + (-20)x + (-35) \\ 36x^2 + 43x - 35\end{aligned}$$

7. $(-4x + 4)(5x + 9)$

$$\begin{aligned}(-4)(5)x^2 + (-4)(9)x + (4)(5)x + (4)(9) \\ (-20)x^2 + (-36)x + (20)x + (36) \\ -20x^2 - 16x + 36\end{aligned}$$

8. $(2x + 6)(6x - 5)$

$$\begin{aligned}(2)(6)x^2 + (2)(-5)x + (6)(6)x + (6)(-5) \\ (12)x^2 + (-10)x + (36)x + (-30) \\ 12x^2 + 26x - 30\end{aligned}$$

9. $(-2x + 3)(9x - 8)$

$$\begin{aligned}(-2)(9)x^2 + (-2)(-8)x + (3)(9)x + (3)(-8) \\ (-18)x^2 + (16)x + (27)x + (-24) \\ -18x^2 + 43x - 24\end{aligned}$$

10. $(-4x + 4)(4x + 3)$

$$\begin{aligned}(-4)(4)x^2 + (-4)(3)x + (4)(4)x + (4)(3) \\ (-16)x^2 + (-12)x + (16)x + (12) \\ -16x^2 + 4x + 12\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 5)

FOIL the expressions shown below:

1. $(4x - 8)(8x + 2)$

$$\begin{aligned}(4)(8)x^2 + (4)(2)x + (-8)(8)x + (-8)(2) \\ (32)x^2 + (8)x + (-64)x + (-16) \\ 32x^2 - 56x - 16\end{aligned}$$

2. $(-3x - 3)(7x - 7)$

$$\begin{aligned}(-3)(7)x^2 + (-3)(-7)x + (-3)(7)x + (-3)(-7) \\ (-21)x^2 + (21)x + (-21)x + (21) \\ -21x^2 + 21\end{aligned}$$

3. $(-5x + 5)(9x + 3)$

$$\begin{aligned}(-5)(9)x^2 + (-5)(3)x + (5)(9)x + (5)(3) \\ (-45)x^2 + (-15)x + (45)x + (15) \\ -45x^2 + 30x + 15\end{aligned}$$

4. $(3x + 5)(-5x + 4)$

$$\begin{aligned}(3)(-5)x^2 + (3)(4)x + (5)(-5)x + (5)(4) \\ (-15)x^2 + (12)x + (-25)x + (20) \\ -15x^2 - 13x + 20\end{aligned}$$

5. $(-4x + 3)(5x - 2)$

$$\begin{aligned}(-4)(5)x^2 + (-4)(-2)x + (3)(5)x + (3)(-2) \\ (-20)x^2 + (8)x + (15)x + (-6) \\ -20x^2 + 23x - 6\end{aligned}$$

FOIL the expressions shown below:

6. $(9x - 8)(-4x + 7)$

$$\begin{aligned}(9)(-4)x^2 + (9)(7)x + (-8)(-4)x + (-8)(7) \\ (-36)x^2 + (63)x + (32)x + (-56) \\ -36x^2 + 95x - 56\end{aligned}$$

7. $(9x - 6)(-2x - 2)$

$$\begin{aligned}(9)(-2)x^2 + (9)(-2)x + (-6)(-2)x + (-6)(-2) \\ (-18)x^2 + (-18)x + (12)x + (12) \\ -18x^2 - 6x + 12\end{aligned}$$

8. $(5x + 4)(6x + 8)$

$$\begin{aligned}(5)(6)x^2 + (5)(8)x + (4)(6)x + (4)(8) \\ (30)x^2 + (40)x + (24)x + (32) \\ 30x^2 + 64x + 32\end{aligned}$$

9. $(9x - 8)(-7x - 2)$

$$\begin{aligned}(9)(-7)x^2 + (9)(-2)x + (-8)(-7)x + (-8)(-2) \\ (-63)x^2 + (-18)x + (56)x + (16) \\ -63x^2 + 38x + 16\end{aligned}$$

10. $(6x + 3)(7x + 5)$

$$\begin{aligned}(6)(7)x^2 + (6)(5)x + (3)(7)x + (3)(5) \\ (42)x^2 + (30)x + (21)x + (15) \\ 42x^2 + 51x + 15\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 6)

FOIL the expressions shown below:

1. $(7x + 6)(-5x + 3)$

$$\begin{aligned}(7)(-5)x^2 + (7)(3)x + (6)(-5)x + (6)(3) \\ (-35)x^2 + (21)x + (-30)x + (18) \\ -35x^2 - 9x + 18\end{aligned}$$

2. $(3x + 7)(-8x - 8)$

$$\begin{aligned}(3)(-8)x^2 + (3)(-8)x + (7)(-8)x + (7)(-8) \\ (-24)x^2 + (-24)x + (-56)x + (-56) \\ -24x^2 - 80x - 56\end{aligned}$$

3. $(-9x - 4)(8x - 9)$

$$\begin{aligned}(-9)(8)x^2 + (-9)(-9)x + (-4)(8)x + (-4)(-9) \\ (-72)x^2 + (81)x + (-32)x + (36) \\ -72x^2 + 49x + 36\end{aligned}$$

4. $(9x - 8)(9x - 6)$

$$\begin{aligned}(9)(9)x^2 + (9)(-6)x + (-8)(9)x + (-8)(-6) \\ (81)x^2 + (-54)x + (-72)x + (48) \\ 81x^2 - 126x + 48\end{aligned}$$

5. $(5x + 3)(6x + 7)$

$$\begin{aligned}(5)(6)x^2 + (5)(7)x + (3)(6)x + (3)(7) \\ (30)x^2 + (35)x + (18)x + (21) \\ 30x^2 + 53x + 21\end{aligned}$$

FOIL the expressions shown below:

6. $(-9x + 6)(-7x + 7)$

$$\begin{aligned} & (-9)(-7)x^2 + (-9)(7)x + (6)(-7)x + (6)(7) \\ & (63)x^2 + (-63)x + (-42)x + (42) \\ & 63x^2 - 105x + 42 \end{aligned}$$

7. $(8x + 7)(6x + 7)$

$$\begin{aligned} & (8)(6)x^2 + (8)(7)x + (7)(6)x + (7)(7) \\ & (48)x^2 + (56)x + (42)x + (49) \\ & 48x^2 + 98x + 49 \end{aligned}$$

8. $(-8x + 5)(9x - 8)$

$$\begin{aligned} & (-8)(9)x^2 + (-8)(-8)x + (5)(9)x + (5)(-8) \\ & (-72)x^2 + (64)x + (45)x + (-40) \\ & -72x^2 + 109x - 40 \end{aligned}$$

9. $(-3x + 3)(8x - 6)$

$$\begin{aligned} & (-3)(8)x^2 + (-3)(-6)x + (3)(8)x + (3)(-6) \\ & (-24)x^2 + (18)x + (24)x + (-18) \\ & -24x^2 + 42x - 18 \end{aligned}$$

10. $(6x + 9)(-4x + 9)$

$$\begin{aligned} & (6)(-4)x^2 + (6)(9)x + (9)(-4)x + (9)(9) \\ & (-24)x^2 + (54)x + (-36)x + (81) \\ & -24x^2 + 18x + 81 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 7)**FOIL the expressions shown below:**

1. $(5x + 3)(-7x + 8)$

$$\begin{aligned}
 & (5)(-7)x^2 + (5)(8)x + (3)(-7)x + (3)(8) \\
 & (-35)x^2 + (40)x + (-21)x + (24) \\
 & -35x^2 + 19x + 24
 \end{aligned}$$

2. $(-2x - 4)(-7x - 2)$

$$\begin{aligned}
 & (-2)(-7)x^2 + (-2)(-2)x + (-4)(-7)x + (-4)(-2) \\
 & (14)x^2 + (4)x + (28)x + (8) \\
 & 14x^2 + 32x + 8
 \end{aligned}$$

3. $(5x + 3)(-7x + 4)$

$$\begin{aligned}
 & (5)(-7)x^2 + (5)(4)x + (3)(-7)x + (3)(4) \\
 & (-35)x^2 + (20)x + (-21)x + (12) \\
 & -35x^2 - x + 12
 \end{aligned}$$

4. $(-4x + 4)(-4x + 9)$

$$\begin{aligned}
 & (-4)(-4)x^2 + (-4)(9)x + (4)(-4)x + (4)(9) \\
 & (16)x^2 + (-36)x + (-16)x + (36) \\
 & 16x^2 - 52x + 36
 \end{aligned}$$

5. $(-3x - 4)(-6x - 8)$

$$\begin{aligned}
 & (-3)(-6)x^2 + (-3)(-8)x + (-4)(-6)x + (-4)(-8) \\
 & (18)x^2 + (24)x + (24)x + (32) \\
 & 18x^2 + 48x + 32
 \end{aligned}$$

FOIL the expressions shown below:

6. $(-9x + 4)(7x - 6)$

$$\begin{aligned} & (-9)(7)x^2 + (-9)(-6)x + (4)(7)x + (4)(-6) \\ & (-63)x^2 + (54)x + (28)x + (-24) \\ & -63x^2 + 82x - 24 \end{aligned}$$

7. $(2x - 5)(-2x - 4)$

$$\begin{aligned} & (2)(-2)x^2 + (2)(-4)x + (-5)(-2)x + (-5)(-4) \\ & (-4)x^2 + (-8)x + (10)x + (20) \\ & -4x^2 + 2x + 20 \end{aligned}$$

8. $(-8x + 5)(9x + 8)$

$$\begin{aligned} & (-8)(9)x^2 + (-8)(8)x + (5)(9)x + (5)(8) \\ & (-72)x^2 + (-64)x + (45)x + (40) \\ & -72x^2 - 19x + 40 \end{aligned}$$

9. $(3x + 3)(-2x + 7)$

$$\begin{aligned} & (3)(-2)x^2 + (3)(7)x + (3)(-2)x + (3)(7) \\ & (-6)x^2 + (21)x + (-6)x + (21) \\ & -6x^2 + 15x + 21 \end{aligned}$$

10. $(-7x - 5)(9x - 4)$

$$\begin{aligned} & (-7)(9)x^2 + (-7)(-4)x + (-5)(9)x + (-5)(-4) \\ & (-63)x^2 + (28)x + (-45)x + (20) \\ & -63x^2 - 17x + 20 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 8)

FOIL the expressions shown below:

1. $(-3x + 9)(-6x - 8)$

$$\begin{aligned} & (-3)(-6)x^2 + (-3)(-8)x + (9)(-6)x + (9)(-8) \\ & (18)x^2 + (24)x + (-54)x + (-72) \\ & 18x^2 - 30x - 72 \end{aligned}$$

2. $(6x + 7)(-8x - 9)$

$$\begin{aligned} & (6)(-8)x^2 + (6)(-9)x + (7)(-8)x + (7)(-9) \\ & (-48)x^2 + (-54)x + (-56)x + (-63) \\ & -48x^2 - 110x - 63 \end{aligned}$$

3. $(-6x - 6)(-2x + 4)$

$$\begin{aligned} & (-6)(-2)x^2 + (-6)(4)x + (-6)(-2)x + (-6)(4) \\ & (12)x^2 + (-24)x + (12)x + (-24) \\ & 12x^2 - 12x - 24 \end{aligned}$$

4. $(-2x - 3)(-7x + 7)$

$$\begin{aligned} & (-2)(-7)x^2 + (-2)(7)x + (-3)(-7)x + (-3)(7) \\ & (14)x^2 + (-14)x + (21)x + (-21) \\ & 14x^2 + 7x - 21 \end{aligned}$$

5. $(3x - 5)(8x + 8)$

$$\begin{aligned} & (3)(8)x^2 + (3)(8)x + (-5)(8)x + (-5)(8) \\ & (24)x^2 + (24)x + (-40)x + (-40) \\ & 24x^2 - 16x - 40 \end{aligned}$$

FOIL the expressions shown below:

6. $(-2x + 3)(7x - 5)$

$$\begin{aligned} & (-2)(7)x^2 + (-2)(-5)x + (3)(7)x + (3)(-5) \\ & (-14)x^2 + (10)x + (21)x + (-15) \\ & \quad -14x^2 + 31x - 15 \end{aligned}$$

7. $(9x - 5)(5x + 7)$

$$\begin{aligned} & (9)(5)x^2 + (9)(7)x + (-5)(5)x + (-5)(7) \\ & (45)x^2 + (63)x + (-25)x + (-35) \\ & \quad 45x^2 + 38x - 35 \end{aligned}$$

8. $(-7x + 5)(4x + 8)$

$$\begin{aligned} & (-7)(4)x^2 + (-7)(8)x + (5)(4)x + (5)(8) \\ & (-28)x^2 + (-56)x + (20)x + (40) \\ & \quad -28x^2 - 36x + 40 \end{aligned}$$

9. $(9x - 5)(-9x - 5)$

$$\begin{aligned} & (9)(-9)x^2 + (9)(-5)x + (-5)(-9)x + (-5)(-5) \\ & (-81)x^2 + (-45)x + (45)x + (25) \\ & \quad -81x^2 + 25 \end{aligned}$$

10. $(-8x + 5)(-9x - 8)$

$$\begin{aligned} & (-8)(-9)x^2 + (-8)(-8)x + (5)(-9)x + (5)(-8) \\ & (72)x^2 + (64)x + (-45)x + (-40) \\ & \quad 72x^2 + 19x - 40 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 9)

FOIL the expressions shown below:

1. $(4x + 4)(-5x - 4)$

$$\begin{aligned}(4)(-5)x^2 + (4)(-4)x + (4)(-5)x + (4)(-4) \\ (-20)x^2 + (-16)x + (-20)x + (-16) \\ -20x^2 - 36x - 16\end{aligned}$$

2. $(4x + 5)(9x + 7)$

$$\begin{aligned}(4)(9)x^2 + (4)(7)x + (5)(9)x + (5)(7) \\ (36)x^2 + (28)x + (45)x + (35) \\ 36x^2 + 73x + 35\end{aligned}$$

3. $(-7x + 5)(5x + 7)$

$$\begin{aligned}(-7)(5)x^2 + (-7)(7)x + (5)(5)x + (5)(7) \\ (-35)x^2 + (-49)x + (25)x + (35) \\ -35x^2 - 24x + 35\end{aligned}$$

4. $(-5x - 8)(-4x - 9)$

$$\begin{aligned}(-5)(-4)x^2 + (-5)(-9)x + (-8)(-4)x + (-8)(-9) \\ (20)x^2 + (45)x + (32)x + (72) \\ 20x^2 + 77x + 72\end{aligned}$$

5. $(-7x - 7)(-4x + 3)$

$$\begin{aligned}(-7)(-4)x^2 + (-7)(3)x + (-7)(-4)x + (-7)(3) \\ (28)x^2 + (-21)x + (28)x + (-21) \\ 28x^2 + 7x - 21\end{aligned}$$

FOIL the expressions shown below:

6. $(-7x + 4)(4x - 4)$

$$\begin{aligned} & (-7)(4)x^2 + (-7)(-4)x + (4)(4)x + (4)(-4) \\ & (-28)x^2 + (28)x + (16)x + (-16) \\ & -28x^2 + 44x - 16 \end{aligned}$$

7. $(4x - 9)(-7x + 5)$

$$\begin{aligned} & (4)(-7)x^2 + (4)(5)x + (-9)(-7)x + (-9)(5) \\ & (-28)x^2 + (20)x + (63)x + (-45) \\ & -28x^2 + 83x - 45 \end{aligned}$$

8. $(-8x - 2)(6x - 3)$

$$\begin{aligned} & (-8)(6)x^2 + (-8)(-3)x + (-2)(6)x + (-2)(-3) \\ & (-48)x^2 + (24)x + (-12)x + (6) \\ & -48x^2 + 12x + 6 \end{aligned}$$

9. $(3x - 3)(8x + 8)$

$$\begin{aligned} & (3)(8)x^2 + (3)(8)x + (-3)(8)x + (-3)(8) \\ & (24)x^2 + (24)x + (-24)x + (-24) \\ & 24x^2 - 24 \end{aligned}$$

10. $(8x + 3)(2x + 9)$

$$\begin{aligned} & (8)(2)x^2 + (8)(9)x + (3)(2)x + (3)(9) \\ & (16)x^2 + (72)x + (6)x + (27) \\ & 16x^2 + 78x + 27 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 10)

FOIL the expressions shown below:

1. $(9x + 4)(3x + 2)$

$$\begin{aligned} & (9)(3)x^2 + (9)(2)x + (4)(3)x + (4)(2) \\ & (27)x^2 + (18)x + (12)x + (8) \\ & 27x^2 + 30x + 8 \end{aligned}$$

2. $(-2x + 8)(-3x - 7)$

$$\begin{aligned} & (-2)(-3)x^2 + (-2)(-7)x + (8)(-3)x + (8)(-7) \\ & (6)x^2 + (14)x + (-24)x + (-56) \\ & 6x^2 - 10x - 56 \end{aligned}$$

3. $(3x - 2)(-8x + 6)$

$$\begin{aligned} & (3)(-8)x^2 + (3)(6)x + (-2)(-8)x + (-2)(6) \\ & (-24)x^2 + (18)x + (16)x + (-12) \\ & -24x^2 + 34x - 12 \end{aligned}$$

4. $(-8x + 4)(-3x - 4)$

$$\begin{aligned} & (-8)(-3)x^2 + (-8)(-4)x + (4)(-3)x + (4)(-4) \\ & (24)x^2 + (32)x + (-12)x + (-16) \\ & 24x^2 + 20x - 16 \end{aligned}$$

5. $(-8x + 3)(6x + 5)$

$$\begin{aligned} & (-8)(6)x^2 + (-8)(5)x + (3)(6)x + (3)(5) \\ & (-48)x^2 + (-40)x + (18)x + (15) \\ & -48x^2 - 22x + 15 \end{aligned}$$

FOIL the expressions shown below:

6. $(7x - 8)(2x + 3)$

$$\begin{aligned}(7)(2)x^2 + (7)(3)x + (-8)(2)x + (-8)(3) \\ (14)x^2 + (21)x + (-16)x + (-24) \\ 14x^2 + 5x - 24\end{aligned}$$

7. $(4x - 4)(-8x - 7)$

$$\begin{aligned}(4)(-8)x^2 + (4)(-7)x + (-4)(-8)x + (-4)(-7) \\ (-32)x^2 + (-28)x + (32)x + (28) \\ -32x^2 + 4x + 28\end{aligned}$$

8. $(3x + 3)(4x + 5)$

$$\begin{aligned}(3)(4)x^2 + (3)(5)x + (3)(4)x + (3)(5) \\ (12)x^2 + (15)x + (12)x + (15) \\ 12x^2 + 27x + 15\end{aligned}$$

9. $(-2x - 5)(2x + 9)$

$$\begin{aligned}(-2)(2)x^2 + (-2)(9)x + (-5)(2)x + (-5)(9) \\ (-4)x^2 + (-18)x + (-10)x + (-45) \\ -4x^2 - 28x - 45\end{aligned}$$

10. $(8x + 7)(-3x + 7)$

$$\begin{aligned}(8)(-3)x^2 + (8)(7)x + (7)(-3)x + (7)(7) \\ (-24)x^2 + (56)x + (-21)x + (49) \\ -24x^2 + 35x + 49\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 11)

FOIL the expressions shown below:

1. $(3x - 8)(2x - 2)$

$$\begin{aligned}(3)(2)x^2 + (3)(-2)x + (-8)(2)x + (-8)(-2) \\ (6)x^2 + (-6)x + (-16)x + (16) \\ 6x^2 - 22x + 16\end{aligned}$$

2. $(-4x + 5)(-5x - 4)$

$$\begin{aligned}(-4)(-5)x^2 + (-4)(-4)x + (5)(-5)x + (5)(-4) \\ (20)x^2 + (16)x + (-25)x + (-20) \\ 20x^2 - 9x - 20\end{aligned}$$

3. $(4x - 7)(-5x + 6)$

$$\begin{aligned}(4)(-5)x^2 + (4)(6)x + (-7)(-5)x + (-7)(6) \\ (-20)x^2 + (24)x + (35)x + (-42) \\ -20x^2 + 59x - 42\end{aligned}$$

4. $(-2x + 8)(-3x + 8)$

$$\begin{aligned}(-2)(-3)x^2 + (-2)(8)x + (8)(-3)x + (8)(8) \\ (6)x^2 + (-16)x + (-24)x + (64) \\ 6x^2 - 40x + 64\end{aligned}$$

5. $(4x + 5)(6x - 8)$

$$\begin{aligned}(4)(6)x^2 + (4)(-8)x + (5)(6)x + (5)(-8) \\ (24)x^2 + (-32)x + (30)x + (-40) \\ 24x^2 - 2x - 40\end{aligned}$$

FOIL the expressions shown below:

6. $(4x + 3)(2x - 8)$

$$\begin{aligned}(4)(2)x^2 + (4)(-8)x + (3)(2)x + (3)(-8) \\ (8)x^2 + (-32)x + (6)x + (-24) \\ 8x^2 - 26x - 24\end{aligned}$$

7. $(-6x + 5)(2x - 3)$

$$\begin{aligned}(-6)(2)x^2 + (-6)(-3)x + (5)(2)x + (5)(-3) \\ (-12)x^2 + (18)x + (10)x + (-15) \\ -12x^2 + 28x - 15\end{aligned}$$

8. $(-5x - 8)(-6x + 7)$

$$\begin{aligned}(-5)(-6)x^2 + (-5)(7)x + (-8)(-6)x + (-8)(7) \\ (30)x^2 + (-35)x + (48)x + (-56) \\ 30x^2 + 13x - 56\end{aligned}$$

9. $(6x - 8)(7x + 5)$

$$\begin{aligned}(6)(7)x^2 + (6)(5)x + (-8)(7)x + (-8)(5) \\ (42)x^2 + (30)x + (-56)x + (-40) \\ 42x^2 - 26x - 40\end{aligned}$$

10. $(-4x + 4)(5x + 7)$

$$\begin{aligned}(-4)(5)x^2 + (-4)(7)x + (4)(5)x + (4)(7) \\ (-20)x^2 + (-28)x + (20)x + (28) \\ -20x^2 - 8x + 28\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 12)**FOIL the expressions shown below:**

1. $(3x - 3)(-8x + 9)$

$$\begin{aligned}
 & (3)(-8)x^2 + (3)(9)x + (-3)(-8)x + (-3)(9) \\
 & (-24)x^2 + (27)x + (24)x + (-27) \\
 & -24x^2 + 51x - 27
 \end{aligned}$$

2. $(-2x - 8)(5x + 4)$

$$\begin{aligned}
 & (-2)(5)x^2 + (-2)(4)x + (-8)(5)x + (-8)(4) \\
 & (-10)x^2 + (-8)x + (-40)x + (-32) \\
 & -10x^2 - 48x - 32
 \end{aligned}$$

3. $(3x - 4)(3x + 5)$

$$\begin{aligned}
 & (3)(3)x^2 + (3)(5)x + (-4)(3)x + (-4)(5) \\
 & (9)x^2 + (15)x + (-12)x + (-20) \\
 & 9x^2 + 3x - 20
 \end{aligned}$$

4. $(-2x + 2)(8x - 2)$

$$\begin{aligned}
 & (-2)(8)x^2 + (-2)(-2)x + (2)(8)x + (2)(-2) \\
 & (-16)x^2 + (4)x + (16)x + (-4) \\
 & -16x^2 + 20x - 4
 \end{aligned}$$

5. $(-5x + 7)(-3x + 5)$

$$\begin{aligned}
 & (-5)(-3)x^2 + (-5)(5)x + (7)(-3)x + (7)(5) \\
 & (15)x^2 + (-25)x + (-21)x + (35) \\
 & 15x^2 - 46x + 35
 \end{aligned}$$

FOIL the expressions shown below:

6. $(9x + 7)(3x - 3)$

$$\begin{aligned}(9)(3)x^2 + (9)(-3)x + (7)(3)x + (7)(-3) \\ (27)x^2 + (-27)x + (21)x + (-21) \\ 27x^2 - 6x - 21\end{aligned}$$

7. $(4x + 6)(6x + 9)$

$$\begin{aligned}(4)(6)x^2 + (4)(9)x + (6)(6)x + (6)(9) \\ (24)x^2 + (36)x + (36)x + (54) \\ 24x^2 + 72x + 54\end{aligned}$$

8. $(-4x + 4)(-3x + 8)$

$$\begin{aligned}(-4)(-3)x^2 + (-4)(8)x + (4)(-3)x + (4)(8) \\ (12)x^2 + (-32)x + (-12)x + (32) \\ 12x^2 - 44x + 32\end{aligned}$$

9. $(-5x - 7)(5x - 8)$

$$\begin{aligned}(-5)(5)x^2 + (-5)(-8)x + (-7)(5)x + (-7)(-8) \\ (-25)x^2 + (40)x + (-35)x + (56) \\ -25x^2 + 5x + 56\end{aligned}$$

10. $(9x - 2)(2x - 2)$

$$\begin{aligned}(9)(2)x^2 + (9)(-2)x + (-2)(2)x + (-2)(-2) \\ (18)x^2 + (-18)x + (-4)x + (4) \\ 18x^2 - 22x + 4\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 13)**FOIL the expressions shown below:**

1. $(-5x - 7)(9x - 2)$

$$\begin{aligned} & (-5)(9)x^2 + (-5)(-2)x + (-7)(9)x + (-7)(-2) \\ & (-45)x^2 + (10)x + (-63)x + (14) \\ & -45x^2 - 53x + 14 \end{aligned}$$

2. $(9x + 6)(-6x - 4)$

$$\begin{aligned} & (9)(-6)x^2 + (9)(-4)x + (6)(-6)x + (6)(-4) \\ & (-54)x^2 + (-36)x + (-36)x + (-24) \\ & -54x^2 - 72x - 24 \end{aligned}$$

3. $(-3x + 8)(-3x + 3)$

$$\begin{aligned} & (-3)(-3)x^2 + (-3)(3)x + (8)(-3)x + (8)(3) \\ & (9)x^2 + (-9)x + (-24)x + (24) \\ & 9x^2 - 33x + 24 \end{aligned}$$

4. $(6x + 9)(9x + 8)$

$$\begin{aligned} & (6)(9)x^2 + (6)(8)x + (9)(9)x + (9)(8) \\ & (54)x^2 + (48)x + (81)x + (72) \\ & 54x^2 + 129x + 72 \end{aligned}$$

5. $(-3x + 6)(7x - 2)$

$$\begin{aligned} & (-3)(7)x^2 + (-3)(-2)x + (6)(7)x + (6)(-2) \\ & (-21)x^2 + (6)x + (42)x + (-12) \\ & -21x^2 + 48x - 12 \end{aligned}$$

FOIL the expressions shown below:

6. $(-5x - 6)(7x + 7)$

$$\begin{aligned} & (-5)(7)x^2 + (-5)(7)x + (-6)(7)x + (-6)(7) \\ & (-35)x^2 + (-35)x + (-42)x + (-42) \\ & -35x^2 - 77x - 42 \end{aligned}$$

7. $(8x - 7)(-4x - 2)$

$$\begin{aligned} & (8)(-4)x^2 + (8)(-2)x + (-7)(-4)x + (-7)(-2) \\ & (-32)x^2 + (-16)x + (28)x + (14) \\ & -32x^2 + 12x + 14 \end{aligned}$$

8. $(7x + 7)(-4x + 3)$

$$\begin{aligned} & (7)(-4)x^2 + (7)(3)x + (7)(-4)x + (7)(3) \\ & (-28)x^2 + (21)x + (-28)x + (21) \\ & -28x^2 - 7x + 21 \end{aligned}$$

9. $(-9x + 2)(-8x + 7)$

$$\begin{aligned} & (-9)(-8)x^2 + (-9)(7)x + (2)(-8)x + (2)(7) \\ & (72)x^2 + (-63)x + (-16)x + (14) \\ & 72x^2 - 79x + 14 \end{aligned}$$

10. $(7x - 8)(-7x - 5)$

$$\begin{aligned} & (7)(-7)x^2 + (7)(-5)x + (-8)(-7)x + (-8)(-5) \\ & (-49)x^2 + (-35)x + (56)x + (40) \\ & -49x^2 + 21x + 40 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 14)

FOIL the expressions shown below:

1. $(2x + 2)(4x - 6)$

$$\begin{aligned}(2)(4)x^2 + (2)(-6)x + (2)(4)x + (2)(-6) \\ (8)x^2 + (-12)x + (8)x + (-12) \\ 8x^2 - 4x - 12\end{aligned}$$

2. $(-9x + 3)(-6x + 8)$

$$\begin{aligned}(-9)(-6)x^2 + (-9)(8)x + (3)(-6)x + (3)(8) \\ (54)x^2 + (-72)x + (-18)x + (24) \\ 54x^2 - 90x + 24\end{aligned}$$

3. $(-9x + 3)(-7x - 3)$

$$\begin{aligned}(-9)(-7)x^2 + (-9)(-3)x + (3)(-7)x + (3)(-3) \\ (63)x^2 + (27)x + (-21)x + (-9) \\ 63x^2 + 6x - 9\end{aligned}$$

4. $(-6x + 9)(-5x + 3)$

$$\begin{aligned}(-6)(-5)x^2 + (-6)(3)x + (9)(-5)x + (9)(3) \\ (30)x^2 + (-18)x + (-45)x + (27) \\ 30x^2 - 63x + 27\end{aligned}$$

5. $(5x - 4)(3x + 9)$

$$\begin{aligned}(5)(3)x^2 + (5)(9)x + (-4)(3)x + (-4)(9) \\ (15)x^2 + (45)x + (-12)x + (-36) \\ 15x^2 + 33x - 36\end{aligned}$$

FOIL the expressions shown below:

6. $(9x - 6)(-3x - 2)$

$$\begin{aligned}(9)(-3)x^2 + (9)(-2)x + (-6)(-3)x + (-6)(-2) \\ (-27)x^2 + (-18)x + (18)x + (12) \\ -27x^2 + 12\end{aligned}$$

7. $(-9x + 2)(2x - 9)$

$$\begin{aligned}(-9)(2)x^2 + (-9)(-9)x + (2)(2)x + (2)(-9) \\ (-18)x^2 + (81)x + (4)x + (-18) \\ -18x^2 + 85x - 18\end{aligned}$$

8. $(-7x + 9)(-2x + 2)$

$$\begin{aligned}(-7)(-2)x^2 + (-7)(2)x + (9)(-2)x + (9)(2) \\ (14)x^2 + (-14)x + (-18)x + (18) \\ 14x^2 - 32x + 18\end{aligned}$$

9. $(-7x - 5)(3x - 8)$

$$\begin{aligned}(-7)(3)x^2 + (-7)(-8)x + (-5)(3)x + (-5)(-8) \\ (-21)x^2 + (56)x + (-15)x + (40) \\ -21x^2 + 41x + 40\end{aligned}$$

10. $(3x + 7)(8x - 3)$

$$\begin{aligned}(3)(8)x^2 + (3)(-3)x + (7)(8)x + (7)(-3) \\ (24)x^2 + (-9)x + (56)x + (-21) \\ 24x^2 + 47x - 21\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 15)

FOIL the expressions shown below:

1. $(-8x - 5)(8x + 3)$

$$\begin{aligned} & (-8)(8)x^2 + (-8)(3)x + (-5)(8)x + (-5)(3) \\ & (-64)x^2 + (-24)x + (-40)x + (-15) \\ & -64x^2 - 64x - 15 \end{aligned}$$

2. $(8x + 4)(2x + 5)$

$$\begin{aligned} & (8)(2)x^2 + (8)(5)x + (4)(2)x + (4)(5) \\ & (16)x^2 + (40)x + (8)x + (20) \\ & 16x^2 + 48x + 20 \end{aligned}$$

3. $(-5x - 5)(5x - 3)$

$$\begin{aligned} & (-5)(5)x^2 + (-5)(-3)x + (-5)(5)x + (-5)(-3) \\ & (-25)x^2 + (15)x + (-25)x + (15) \\ & -25x^2 - 10x + 15 \end{aligned}$$

4. $(-5x + 6)(-5x - 7)$

$$\begin{aligned} & (-5)(-5)x^2 + (-5)(-7)x + (6)(-5)x + (6)(-7) \\ & (25)x^2 + (35)x + (-30)x + (-42) \\ & 25x^2 + 5x - 42 \end{aligned}$$

5. $(-7x + 4)(7x - 2)$

$$\begin{aligned} & (-7)(7)x^2 + (-7)(-2)x + (4)(7)x + (4)(-2) \\ & (-49)x^2 + (14)x + (28)x + (-8) \\ & -49x^2 + 42x - 8 \end{aligned}$$

FOIL the expressions shown below:

6. $(4x - 4)(5x - 8)$

$$\begin{aligned}(4)(5)x^2 + (4)(-8)x + (-4)(5)x + (-4)(-8) \\ (20)x^2 + (-32)x + (-20)x + (32) \\ 20x^2 - 52x + 32\end{aligned}$$

7. $(-9x + 6)(2x + 6)$

$$\begin{aligned}(-9)(2)x^2 + (-9)(6)x + (6)(2)x + (6)(6) \\ (-18)x^2 + (-54)x + (12)x + (36) \\ -18x^2 - 42x + 36\end{aligned}$$

8. $(-3x + 5)(-8x - 4)$

$$\begin{aligned}(-3)(-8)x^2 + (-3)(-4)x + (5)(-8)x + (5)(-4) \\ (24)x^2 + (12)x + (-40)x + (-20) \\ 24x^2 - 28x - 20\end{aligned}$$

9. $(-6x - 9)(-9x - 2)$

$$\begin{aligned}(-6)(-9)x^2 + (-6)(-2)x + (-9)(-9)x + (-9)(-2) \\ (54)x^2 + (12)x + (81)x + (18) \\ 54x^2 + 93x + 18\end{aligned}$$

10. $(2x - 9)(-6x - 7)$

$$\begin{aligned}(2)(-6)x^2 + (2)(-7)x + (-9)(-6)x + (-9)(-7) \\ (-12)x^2 + (-14)x + (54)x + (63) \\ -12x^2 + 40x + 63\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 16)**FOIL the expressions shown below:**

1. $(6x + 8)(4x - 9)$

$$(6)(4)x^2 + (6)(-9)x + (8)(4)x + (8)(-9)$$

$$(24)x^2 + (-54)x + (32)x + (-72)$$

$$24x^2 - 22x - 72$$

2. $(7x - 6)(7x + 4)$

$$(7)(7)x^2 + (7)(4)x + (-6)(7)x + (-6)(4)$$

$$(49)x^2 + (28)x + (-42)x + (-24)$$

$$49x^2 - 14x - 24$$

3. $(8x + 3)(-7x + 5)$

$$(8)(-7)x^2 + (8)(5)x + (3)(-7)x + (3)(5)$$

$$(-56)x^2 + (40)x + (-21)x + (15)$$

$$-56x^2 + 19x + 15$$

4. $(6x - 5)(-2x - 7)$

$$(6)(-2)x^2 + (6)(-7)x + (-5)(-2)x + (-5)(-7)$$

$$(-12)x^2 + (-42)x + (10)x + (35)$$

$$-12x^2 - 32x + 35$$

5. $(-2x - 2)(2x + 4)$

$$(-2)(2)x^2 + (-2)(4)x + (-2)(2)x + (-2)(4)$$

$$(-4)x^2 + (-8)x + (-4)x + (-8)$$

$$-4x^2 - 12x - 8$$

FOIL the expressions shown below:

6. $(2x - 4)(-2x + 9)$

$$\begin{aligned}(2)(-2)x^2 + (2)(9)x + (-4)(-2)x + (-4)(9) \\ (-4)x^2 + (18)x + (8)x + (-36) \\ -4x^2 + 26x - 36\end{aligned}$$

7. $(4x - 2)(6x + 4)$

$$\begin{aligned}(4)(6)x^2 + (4)(4)x + (-2)(6)x + (-2)(4) \\ (24)x^2 + (16)x + (-12)x + (-8) \\ 24x^2 + 4x - 8\end{aligned}$$

8. $(-9x + 6)(2x - 8)$

$$\begin{aligned}(-9)(2)x^2 + (-9)(-8)x + (6)(2)x + (6)(-8) \\ (-18)x^2 + (72)x + (12)x + (-48) \\ -18x^2 + 84x - 48\end{aligned}$$

9. $(-5x - 5)(7x + 8)$

$$\begin{aligned}(-5)(7)x^2 + (-5)(8)x + (-5)(7)x + (-5)(8) \\ (-35)x^2 + (-40)x + (-35)x + (-40) \\ -35x^2 - 75x - 40\end{aligned}$$

10. $(2x + 7)(-7x - 6)$

$$\begin{aligned}(2)(-7)x^2 + (2)(-6)x + (7)(-7)x + (7)(-6) \\ (-14)x^2 + (-12)x + (-49)x + (-42) \\ -14x^2 - 61x - 42\end{aligned}$$

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FOIL when $A \neq 1$ solution (version 17)**FOIL the expressions shown below:**

1. $(7x - 2)(-9x - 8)$

$$(7)(-9)x^2 + (7)(-8)x + (-2)(-9)x + (-2)(-8) \\ (-63)x^2 + (-56)x + (18)x + (16) \\ -63x^2 - 38x + 16$$

2. $(3x - 4)(-3x + 6)$

$$(3)(-3)x^2 + (3)(6)x + (-4)(-3)x + (-4)(6) \\ (-9)x^2 + (18)x + (12)x + (-24) \\ -9x^2 + 30x - 24$$

3. $(7x - 4)(-2x + 3)$

$$(7)(-2)x^2 + (7)(3)x + (-4)(-2)x + (-4)(3) \\ (-14)x^2 + (21)x + (8)x + (-12) \\ -14x^2 + 29x - 12$$

4. $(-8x - 5)(-6x + 2)$

$$(-8)(-6)x^2 + (-8)(2)x + (-5)(-6)x + (-5)(2) \\ (48)x^2 + (-16)x + (30)x + (-10) \\ 48x^2 + 14x - 10$$

5. $(5x - 4)(6x - 2)$

$$(5)(6)x^2 + (5)(-2)x + (-4)(6)x + (-4)(-2) \\ (30)x^2 + (-10)x + (-24)x + (8) \\ 30x^2 - 34x + 8$$

FOIL the expressions shown below:

6. $(-6x + 9)(3x - 5)$

$$\begin{aligned} & (-6)(3)x^2 + (-6)(-5)x + (9)(3)x + (9)(-5) \\ & (-18)x^2 + (30)x + (27)x + (-45) \\ & \quad -18x^2 + 57x - 45 \end{aligned}$$

7. $(-3x + 4)(-4x + 9)$

$$\begin{aligned} & (-3)(-4)x^2 + (-3)(9)x + (4)(-4)x + (4)(9) \\ & (12)x^2 + (-27)x + (-16)x + (36) \\ & \quad 12x^2 - 43x + 36 \end{aligned}$$

8. $(-5x - 2)(-5x - 3)$

$$\begin{aligned} & (-5)(-5)x^2 + (-5)(-3)x + (-2)(-5)x + (-2)(-3) \\ & (25)x^2 + (15)x + (10)x + (6) \\ & \quad 25x^2 + 25x + 6 \end{aligned}$$

9. $(7x + 4)(6x - 6)$

$$\begin{aligned} & (7)(6)x^2 + (7)(-6)x + (4)(6)x + (4)(-6) \\ & (42)x^2 + (-42)x + (24)x + (-24) \\ & \quad 42x^2 - 18x - 24 \end{aligned}$$

10. $(6x + 4)(9x - 2)$

$$\begin{aligned} & (6)(9)x^2 + (6)(-2)x + (4)(9)x + (4)(-2) \\ & (54)x^2 + (-12)x + (36)x + (-8) \\ & \quad 54x^2 + 24x - 8 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 18)

FOIL the expressions shown below:

1. $(9x + 3)(9x - 9)$

$$\begin{aligned}(9)(9)x^2 + (9)(-9)x + (3)(9)x + (3)(-9) \\ (81)x^2 + (-81)x + (27)x + (-27) \\ 81x^2 - 54x - 27\end{aligned}$$

2. $(2x - 6)(5x + 4)$

$$\begin{aligned}(2)(5)x^2 + (2)(4)x + (-6)(5)x + (-6)(4) \\ (10)x^2 + (8)x + (-30)x + (-24) \\ 10x^2 - 22x - 24\end{aligned}$$

3. $(-9x + 6)(5x - 8)$

$$\begin{aligned}(-9)(5)x^2 + (-9)(-8)x + (6)(5)x + (6)(-8) \\ (-45)x^2 + (72)x + (30)x + (-48) \\ -45x^2 + 102x - 48\end{aligned}$$

4. $(-4x + 5)(6x - 5)$

$$\begin{aligned}(-4)(6)x^2 + (-4)(-5)x + (5)(6)x + (5)(-5) \\ (-24)x^2 + (20)x + (30)x + (-25) \\ -24x^2 + 50x - 25\end{aligned}$$

5. $(-9x + 2)(-3x + 3)$

$$\begin{aligned}(-9)(-3)x^2 + (-9)(3)x + (2)(-3)x + (2)(3) \\ (27)x^2 + (-27)x + (-6)x + (6) \\ 27x^2 - 33x + 6\end{aligned}$$

FOIL the expressions shown below:

6. $(-6x - 9)(2x - 6)$

$$\begin{aligned} & (-6)(2)x^2 + (-6)(-6)x + (-9)(2)x + (-9)(-6) \\ & (-12)x^2 + (36)x + (-18)x + (54) \\ & -12x^2 + 18x + 54 \end{aligned}$$

7. $(3x + 7)(-5x + 8)$

$$\begin{aligned} & (3)(-5)x^2 + (3)(8)x + (7)(-5)x + (7)(8) \\ & (-15)x^2 + (24)x + (-35)x + (56) \\ & -15x^2 - 11x + 56 \end{aligned}$$

8. $(-5x + 2)(4x + 5)$

$$\begin{aligned} & (-5)(4)x^2 + (-5)(5)x + (2)(4)x + (2)(5) \\ & (-20)x^2 + (-25)x + (8)x + (10) \\ & -20x^2 - 17x + 10 \end{aligned}$$

9. $(-6x - 2)(7x + 5)$

$$\begin{aligned} & (-6)(7)x^2 + (-6)(5)x + (-2)(7)x + (-2)(5) \\ & (-42)x^2 + (-30)x + (-14)x + (-10) \\ & -42x^2 - 44x - 10 \end{aligned}$$

10. $(-4x + 6)(8x + 6)$

$$\begin{aligned} & (-4)(8)x^2 + (-4)(6)x + (6)(8)x + (6)(6) \\ & (-32)x^2 + (-24)x + (48)x + (36) \\ & -32x^2 + 24x + 36 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 19)

FOIL the expressions shown below:

1. $(-7x - 4)(6x + 3)$

$$\begin{aligned} & (-7)(6)x^2 + (-7)(3)x + (-4)(6)x + (-4)(3) \\ & (-42)x^2 + (-21)x + (-24)x + (-12) \\ & -42x^2 - 45x - 12 \end{aligned}$$

2. $(-9x + 6)(8x + 8)$

$$\begin{aligned} & (-9)(8)x^2 + (-9)(8)x + (6)(8)x + (6)(8) \\ & (-72)x^2 + (-72)x + (48)x + (48) \\ & -72x^2 - 24x + 48 \end{aligned}$$

3. $(-2x - 2)(-6x - 6)$

$$\begin{aligned} & (-2)(-6)x^2 + (-2)(-6)x + (-2)(-6)x + (-2)(-6) \\ & (12)x^2 + (12)x + (12)x + (12) \\ & 12x^2 + 24x + 12 \end{aligned}$$

4. $(-5x + 4)(4x + 5)$

$$\begin{aligned} & (-5)(4)x^2 + (-5)(5)x + (4)(4)x + (4)(5) \\ & (-20)x^2 + (-25)x + (16)x + (20) \\ & -20x^2 - 9x + 20 \end{aligned}$$

5. $(5x - 7)(-6x + 6)$

$$\begin{aligned} & (5)(-6)x^2 + (5)(6)x + (-7)(-6)x + (-7)(6) \\ & (-30)x^2 + (30)x + (42)x + (-42) \\ & -30x^2 + 72x - 42 \end{aligned}$$

FOIL the expressions shown below:

6. $(5x + 9)(-4x - 2)$

$$\begin{aligned} & (5)(-4)x^2 + (5)(-2)x + (9)(-4)x + (9)(-2) \\ & (-20)x^2 + (-10)x + (-36)x + (-18) \\ & \quad -20x^2 - 46x - 18 \end{aligned}$$

7. $(-9x + 6)(-9x - 7)$

$$\begin{aligned} & (-9)(-9)x^2 + (-9)(-7)x + (6)(-9)x + (6)(-7) \\ & (81)x^2 + (63)x + (-54)x + (-42) \\ & \quad 81x^2 + 9x - 42 \end{aligned}$$

8. $(2x + 7)(-7x + 3)$

$$\begin{aligned} & (2)(-7)x^2 + (2)(3)x + (7)(-7)x + (7)(3) \\ & (-14)x^2 + (6)x + (-49)x + (21) \\ & \quad -14x^2 - 43x + 21 \end{aligned}$$

9. $(8x - 5)(9x - 6)$

$$\begin{aligned} & (8)(9)x^2 + (8)(-6)x + (-5)(9)x + (-5)(-6) \\ & (72)x^2 + (-48)x + (-45)x + (30) \\ & \quad 72x^2 - 93x + 30 \end{aligned}$$

10. $(-2x - 7)(-7x + 7)$

$$\begin{aligned} & (-2)(-7)x^2 + (-2)(7)x + (-7)(-7)x + (-7)(7) \\ & (14)x^2 + (-14)x + (49)x + (-49) \\ & \quad 14x^2 + 35x - 49 \end{aligned}$$

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FOIL when $A \neq 1$ solution (version 20)

FOIL the expressions shown below:

1. $(-2x - 4)(8x + 4)$

$$\begin{aligned} & (-2)(8)x^2 + (-2)(4)x + (-4)(8)x + (-4)(4) \\ & (-16)x^2 + (-8)x + (-32)x + (-16) \\ & -16x^2 - 40x - 16 \end{aligned}$$

2. $(7x + 6)(8x + 7)$

$$\begin{aligned} & (7)(8)x^2 + (7)(7)x + (6)(8)x + (6)(7) \\ & (56)x^2 + (49)x + (48)x + (42) \\ & 56x^2 + 97x + 42 \end{aligned}$$

3. $(2x + 6)(7x - 2)$

$$\begin{aligned} & (2)(7)x^2 + (2)(-2)x + (6)(7)x + (6)(-2) \\ & (14)x^2 + (-4)x + (42)x + (-12) \\ & 14x^2 + 38x - 12 \end{aligned}$$

4. $(2x - 5)(-9x - 4)$

$$\begin{aligned} & (2)(-9)x^2 + (2)(-4)x + (-5)(-9)x + (-5)(-4) \\ & (-18)x^2 + (-8)x + (45)x + (20) \\ & -18x^2 + 37x + 20 \end{aligned}$$

5. $(2x - 8)(9x + 6)$

$$\begin{aligned} & (2)(9)x^2 + (2)(6)x + (-8)(9)x + (-8)(6) \\ & (18)x^2 + (12)x + (-72)x + (-48) \\ & 18x^2 - 60x - 48 \end{aligned}$$

FOIL the expressions shown below:

6. $(-7x + 9)(-2x + 6)$

$$\begin{aligned} & (-7)(-2)x^2 + (-7)(6)x + (9)(-2)x + (9)(6) \\ & (14)x^2 + (-42)x + (-18)x + (54) \\ & 14x^2 - 60x + 54 \end{aligned}$$

7. $(-5x + 9)(-8x + 3)$

$$\begin{aligned} & (-5)(-8)x^2 + (-5)(3)x + (9)(-8)x + (9)(3) \\ & (40)x^2 + (-15)x + (-72)x + (27) \\ & 40x^2 - 87x + 27 \end{aligned}$$

8. $(-9x - 5)(-7x + 2)$

$$\begin{aligned} & (-9)(-7)x^2 + (-9)(2)x + (-5)(-7)x + (-5)(2) \\ & (63)x^2 + (-18)x + (35)x + (-10) \\ & 63x^2 + 17x - 10 \end{aligned}$$

9. $(-4x + 6)(-8x + 3)$

$$\begin{aligned} & (-4)(-8)x^2 + (-4)(3)x + (6)(-8)x + (6)(3) \\ & (32)x^2 + (-12)x + (-48)x + (18) \\ & 32x^2 - 60x + 18 \end{aligned}$$

10. $(7x - 3)(-9x + 3)$

$$\begin{aligned} & (7)(-9)x^2 + (7)(3)x + (-3)(-9)x + (-3)(3) \\ & (-63)x^2 + (21)x + (27)x + (-9) \\ & -63x^2 + 48x - 9 \end{aligned}$$